

REMARKS

Applicant wishes to take this opportunity to thank the Examiner for granting an interview which was held on March 1, 2005, at which time the references of record were discussed at length and suggestions were made for amending claims 1 and 7 to clarify a misunderstanding on the part of the Examiner and to more clearly distinguish the subject invention from the prior art. Claims 1 and 7 have been amended in accordance with such suggestions.

The rejection of claims 1 and 16 under 35 USC 103(a) as being unpatentable over Asada (USP 6,239,496) in view of Tokuda et al (USP 5,870,289), Heo (USP 6,555,917) and Applicants Admitted Prior Art (AAPA), is respectfully traversed.

Applicant pointed out to the Examiner during the interview on March 1, 2005 that the allegation of the Examiner concerning applicants admitted prior art is incorrect and that the subject specification on page 3 does not teach the advantages of using solder balls instead of inner lead nor does the specification suggest this. The Examiner's allegation on page 3 of the Official Action, next to last paragraph is incorrect and should be withdrawn.

Accordingly, based upon this alone, the rejection lacks support, particularly with regard to the conclusion reached by the Examiner on page 4, last sentence of the first paragraph, which reads "the combination is motivated by the teaching of AAPA which points out the advantages of using solder balls instead of inner leads", which is not the case.

In addition to the above, it should be noted that the primary reference Asada '496, contrary to the Examiner's remark on page 3 alleging that Fig. 8B of Asada, teaches using solder balls instead of inner leads clearly teaches the opposite. As pointed out during the interview, Asada teaches using solder balls as part of the connection to the inner leads and not in place of the inner leads. This is clearly shown in the drawings and supported in the description of Asada in column 6, first paragraph, relative to Fig. 2 and in Col. 13, lines 25-30, in connection with Fig. 8A.

The flip-chip semiconductor package in Asada does not teach or suggest using solder bumps for connecting the chips to the corresponding chip carriers and does not teach a plurality of conductive traces formed over the first and second chip carriers. Moreover, Asada does not teach using a resin encapsulating layer for electrically connecting the first and second chip carriers.

Apparently the Examiner has misinterpreted claims 1 and 7 regarding the plurality of first solder bumps which are formed on the first active surface in direct contact with the first chip carrier for electrically connecting the first chip to the first chip carrier. Claim 1 has been amended to clarify this point. In addition, claim 1 has been amended to make it clear that the plurality of second solder bumps are formed on the second active surface in direct contact with the second chip carrier for electrically connecting the second chip to the second chip carrier. Both of these amendments were also made in claim 7.

Moreover in claim 1, in the last paragraph, it is now clear that the second chip carrier forms a direct electrical connection to the first chip carrier, via the conductive vias. In this regard, applicant wishes to comment on the last sentence on page 4 of the Office Action which concludes that the conductive vias must penetrate the resin layer in order to communicate between the first and second chip carriers. This is incorrect. It is clearly unnecessary to penetrate the first and second chip carriers with the conductive vias as alleged by the Examiner. In fact, in claim 7, the plurality of conductive traces are formed over the first chip carrier, the resin encapsulating layer and the second chip carrier to connect the first and second chip carriers. Moreover, the first and second chip carriers may be electrically connected as long as there is a conductive element connecting both chip carriers.

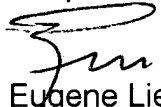
Accordingly, for all of the above reasons, claims 1 and 7 are clearly patentable over the references cited by the Examiner, taken individually or in combination.

All of the claims 2-6 and 8-16 are dependent claims, which depend from claims 1 and 7 and are believed to be patentable for all of the reasons given above.

The rejection of claims 17-18 under 35 USC 103(a) as being unpatentable over Asada, Tokuda et al, Heo and AAPA as applied to claims 1 and 7 in combination with Kim (USP 5,407,864) is respectfully traversed for all of the reasons given heretofore. In addition, claims 17 and 18 are dependent claims, which depend from claims 1 and 7 and are therefore clearly patentable over the references of record taken alone or in combination with Kim.

Reconsideration and allowance of claims 1-18, is respectfully solicited.

Respectfully submitted,


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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed: Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450 on March 23, 2005.



Date: March 23, 2005